Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

# Federally Enforceable District Origin Operating Permit (FEDOOP)

Permit No.: O-1231-20-F Plant ID: 1231

Effective Date: 09/01/2020 Expiration Date: 09/30/2025

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

| | | | |
|---|---|---|---|
| Source: | Forth Technologies, Inc.<br>600 Bergman Avenue<br>Louisville, KY 40203 | Owner: | Forth Technologies, Inc.<br>600 Bergman Avenue<br>Louisville, KY 40203 |

The applicable procedures of District Regulation 2.17 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than twelve (12) months and no later than ninety (90) days prior to the expiration date.

Emission limitations to qualify for non-major status:

| Pollutant: | Total HAP | HAP | $PM_{10}$ |
|---|---|---|---|
| Tons/year: | <12.5 | <5.0 | <25 |

Application No.: See **Application and Related Documents** table.
Public Notice Date: 04/14/2020; 05/15/2020

Permit writer: Randy Schoenbaechler

Air Pollution Control Officer
9/1/2020

## Table of Contents

## FEDOOP Permit Revisions/Changes

| Permit No. | Public Notice Date | Issue Date | Change Type | Description/Scope |
|---|---|---|---|---|
| 27825-14-F | 05/23/2014 | 06/30/2014 | Initial | Initial Permit Issuance |
| 27825-14(R1) | 12/9/2014 | 01/23/2015 | Sig | Clarification in U1 Description of equipment and U1 Equipment table; removal of Tank #1 from U1 PM/PM10 Standards; changes and corrections made to U1 PM/PM10 Standards |
| 27825-14-F(R2) | 02/10/2017 | 03/15/2017 | Sig | Construction Permit incorporated to replace existing C2 wet scrubber with two baghouses (C2(a) and C2(b)) and introduce new production capacity of the solids from the spray dryer SD-1 (E3) from 165 lb/hr to 300 lb/hr. Updated General Condition 10. |
| | | | Admin | Updated to Permit to Newest format |
| O-1231-20-F | 04/14/2020; 05/15/2020 | 09/01/2020 | Renewal | Additional Equipment<br>E61 Tray Dryer/Oven TD-3; Hayes LTO-E (electric)<br>E62 Tray Dryer/Oven TD-4; Hayes LTO-E (electric)<br>E63 Tray Dryer/Oven TD-5; Infatrol (natural gas) 1.2 MMBtu/hr burner for dryer<br>E28 Fiberglass Mix Tank (Tank #8)<br>E29 Bauermeister Mill<br>E40a Stainless Steel holding tank<br>E51a filter press #9<br>E60 Diethylene Glycol storage tank<br>E64 Sodium Hydroxide storage tank<br><br>Removed Equipment<br>E10 Attritor A-7<br>E11 Attritor A-8<br>E12 Attritor A-9<br>C7 wet scrubber (SBM01SC01) for VOC<br>C8 dust collector (SBM01DC01) for PM<br>C18 Donaldson Torit baghouse, model 9PJD6<br>C19 Donaldson Torit baghouse, model 3DF6<br><br>Updated Operation Equipment description |

| Permit No. | Public Notice Date | Issue Date | Change Type | Description/Scope |
|---|---|---|---|---|
| | | | | E3(a) Tank T-21 for pigment slurry<br>E3(b) Tank T-22 for pigment slurry<br>E4(a) Tank T-25 for pigment slurry<br>E4(b) Tank T-26 for pigment slurry<br>E15 mix tank (Tank #35)<br>E19 Pfaulder reactor tank (Tank #30), model 316SS<br>E48 complex filtration tank (Tank #12 )<br>E50 basic dye make tank (Tank #3 )<br><br>Control Equipment added<br>"dust collector" C12a<br>"dust collector" C20<br>"dust collector" C21<br>"dust collector" C22<br><br>Insignificant Activities added<br>"dust collector" Torit Model 84<br>"dust collector" Torit Model 84<br>"dust collector" Torit Model VS550<br>"dust collector" Torit Model VS550<br>"dust collector" Torit Model VS550<br>"dust collector" Torit Model V1550<br>"dust collector" Torit Model 75/80<br>"dust collector" Torit Model 80CAB<br><br>Updated to Permit to Newest format |

## Construction Permit Summary

| Permit No. | Issue Date | Description |
|---|---|---|
| NA | NA | NA |

## Application and Related Documents

| Document Number | Date | Description |
|---|---|---|
| 18925 | 10/11/2018 | FEDOOP Application and Control Device Correspondence |
| 21014 | 1/28/2019 | FEDOOP Application and Control Device Correspondence |

| Document Number | Date | Description |
|---|---|---|
| 21675 | 3/6/2019 | FEDOOP Application and Control Device Correspondence |
| 21738 | 3/11/2019 | FEDOOP Application and Control Device Correspondence |
| 21754 | 3/11/2019 | FEDOOP Application and Control Device Correspondence |
| 22076 | 3/13/2019 | FEDOOP Application Correspondence 100A |
| 22074 | 4/3/2019 | FEDOOP Application Correspondence |
| 22221 | 4/15/2019 | FEDOOP Application Correspondence |
| 22383 | 4/23/2019 | FEDOOP Application Correspondence |
| 22614 | 5/16/2019 | FEDOOP Application Correspondence |
| 22740 | 5/29/2019 | FEDOOP Application Correspondence |
| 22815 | 6/4/2019 | FEDOOP Application Part two |
| 22814 | 6/4/2019 | FEDOOP Application Part one |
| 22851 | 6/6/2019 | Complete FEDOOP Renewal Application |
| 122477 | 10/18/2019 | FEDOOP Application Questions |
| 122585 | 10/22/2019 | Email Regarding FEDOOP Renewal |
| 124001 | 11/8/2019 | Approved Plantwide PTE update |
| 135688 | 3/24/2020 | Pre-Draft Permit sent to company for review |
| 137221 & 137222 | 4/13/2020 | Public Notice Documents – first public notice |
| 138382, 138983, 139297, 139347, 139348, 139349, 139350, 139420, 139592, 139593, 139633, 139663, 139683, 139849, 139859, 140202, 140203, 140242, 140243, 140245, 140263, 140265, 140289, 140292, 140293, 140294, 140295, 140296, 140297, 140298, 140299, 140300, 140301, 140302, 140303, 140304, 140305, 140306, 140307, 140308, 140309, 140310, | 4/23/2020<br>4/28/2020<br>5/1/2020<br>(4x) 5/3/2020<br>5/4/2020<br>(2x) 5/5/2020<br>(3x) 5/6/2020<br>(2x) 5/7/2020<br>(2x) 5/11/2020<br>(29x)<br>5/12/2020<br>(9x) 5/13/2020<br>(11x)<br>5/14/2020<br>(2x) 5/15/2020<br>5/22/2020<br>5/25/2020<br>(6x) 6/15/2020<br>(2x) 6/17/2020<br>6/22/2020<br>6/23/2020 | Emails concerning public comments |

| Document Number | Date | Description |
|---|---|---|
| 140336, 140362, 140363, 140367, 140368, 140369, 140370 140371, 140372, 140373, 140376, 140389, 140397, 140407, 140450, 140472, 140473, 140474, 140477, 140503, 140517, 140520, 140568, 140569, 140578, 140626, 140654, 140776, 141547, 141579, 142935, 142936, 142938, 142939, 142940, 142941, 143856, 143859, 146938, 146964, 147123, 149085, 149093 | 6/24/2020 (2x) 6/29/2020 | |
| 140713 & 140714 | 5/15/2020 | Public Notice Documents -second public notice |
| 145377 & 145378 | 6/18/2020 & 6/19/2020 | Public Meeting Documents |
| 171007 | 8/31/2020 | District Response to Comments Document |

## Abbreviations and Acronyms

| | |
|---|---|
| AP-42 | - AP-42, *Compilation of Air Pollutant Emission Factors*, published by U.S.EPA |
| APCD | - Louisville Metro Air Pollution Control District |
| BAC | - Benchmark Ambient Concentration |
| BACT | - Best Available Control Technology |
| Btu | - British thermal unit |
| CEMS | - Continuous Emission Monitoring System |
| CFR | - Code of Federal Regulations |
| CO | - Carbon monoxide |
| District | - Louisville Metro Air Pollution Control District |
| EA | - Environmental Acceptability |
| gal | - U.S. fluid gallons |
| GHG | - Greenhouse Gas |
| HAP | - Hazardous Air Pollutant |
| Hg | - Mercury |
| hr | - Hour |
| in. | - Inches |
| lbs | - Pounds |
| l | - Liter |
| LMAPCD | - Louisville Metro Air Pollution Control District |
| mmHg | - Millimeters of mercury column height |
| (M)SDS | - (Material) Safety Data Sheet |
| MM | - Million |
| NAICS | - North American Industry Classification System |
| $NO_x$ | - Nitrogen oxides |
| PM | - Particulate Matter |
| $PM_{10}$ | - Particulate Matter less than 10 microns |
| $PM_{2.5}$ | - Particulate Matter less than 2.5 microns |
| ppm | - parts per million |
| PSD | - Prevention of Significant Deterioration |
| psia | - Pounds per square inch absolute |
| QA | - Quality Assurance |
| RACT | - Reasonably Available Control Technology |
| SIC | - Standard Industrial Classification |
| SIP | - State Implementation Plan |
| $SO_2$ | - Sulfur dioxide |
| STAR | - Strategic Toxic Air Reduction |
| TAC | - Toxic Air Contaminant |
| UTM | - Universal Transverse Mercator |
| VOC | - Volatile Organic Compound |
| w.c. | - Water column |
| year | - Any period of twelve consecutive months, unless "calendar year" is specified |
| yr | - Year, or any 12 consecutive-month period, as determined by context |

## Preamble

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. Any permit shall be considered invalid if timely payment of annual fees is not made. The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

## General Conditions

G1. The owner or operator shall comply with all General Conditions herein and all terms and conditions in the referenced process/process equipment list.

G2. All terms and conditions in this FEDOOP are enforceable by EPA, except those terms and conditions specified as District-only enforceable, and those which are not required pursuant to the Clean Air Act Amendments of 1990 (CAAA) or any of the Act's applicable requirements.

G3. All application forms, reports, compliance certifications, and other relevant information submitted to the District shall be certified by a responsible official. If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

G4. The owner or operator shall submit an annual compliance certification, signed by the responsible official, to the District, on or before April 15 of the year following the year for which the certification applies. This certification shall include completion of District Form 9440-O.

G5. Periodic testing, instrumental monitoring, or non-instrumental monitoring, which may include record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstrating continuing compliance with the terms and conditions of this permit.

G6. The owner or operator shall retain all records required by the District or any applicable requirement, including all required monitoring data and supporting information, for a period of five years from the date of the monitoring, sampling, measurement, report, or application, unless a longer time period for record retention is required by the District or an applicable requirement. Records shall be retrievable within a reasonable time and made available to the District, Kentucky Division for Air Quality, or the EPA upon request.

G7. The owner or operator shall provide written notification to the District, and receive approval, prior to making any changes to existing equipment or processes that would result

in emissions of any regulated pollutant in excess of the allowable emissions specified in this permit.

G8. This permit may be reissued, revised, reopened, or revoked pursuant to District Regulation 2.17. Repeated violations of permit conditions are sufficient cause for revocation of this permit. The filing of a request by the owner or operator for any reissuance, revision, revocation, termination, or a notification of planned changes in equipment or processes, or anticipated noncompliance shall not alter any permit requirement.

G9. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed either 10 tons per year, or such lesser quantity as the EPA has established by rule, of any one Hazardous Air Pollutant (HAP) or 25 tons per year of all HAPs combined. Fugitive HAP emissions shall be included in this limit. HAPs are listed in section 112(b) of the CAAA and as amended in 40 CFR 63, Subpart C.

G10. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed 100 tons per year of any regulated pollutant, including particulate matter, $PM_{10}$, $PM_{2.5}$, sulfur dioxide, carbon monoxide, nitrogen oxides, lead, hydrogen sulfide, gaseous fluorides, total fluorides, or Volatile Organic Compounds (VOC); any pollutant subject to any standard in District Regulation 7.02; or any substance listed in sections 112(r), 602(a) and 602(b) of the CAAA. Fugitive emissions shall be included in these limits for source categories listed in District Regulation 2.16.

G11. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.

G12. Unless specified elsewhere in this permit, the owner or operator shall submit semi-annual reports demonstrating compliance with the emission limitations specified. The reports shall contain monthly and consecutive 12-month totals for each pollutant that has a federally enforceable limitation on the potential to emit. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All annual compliance reports shall include the following per Regulation 2.17, section 3.5.

- A certification statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete", and
- The signature and title of a responsible official of the company.

The semi-annual compliance reports are due on or before the following dates of each calendar year:

| **Reporting Period** | **Report Due Date** |
|---|---|
| January 1 - June 30 | August 29 |
| July 1 - December 31 | March 1 of the following year |

G13. The owner or operator shall comply with all applicable requirements of the following federally enforceable District Regulations:

| Regulation | Title |
|---|---|
| 1.01 | General Application of Regulations and Standards |
| 1.02 | Definitions |
| 1.03 | Abbreviations and Acronyms |
| 1.04 | Performance Tests |
| 1.05 | Compliance With Emissions Standards And Maintenance Requirements |
| 1.06 | Source Self-Monitoring, Emission Inventory Development and Reporting |
| 1.07 | Excess Emissions During Startups, Shutdowns, and Upset Conditions |
| 1.08 | Administrative Procedures |
| 1.09 | Prohibition of Air Pollution |
| 1.10 | Circumvention |
| 1.11 | Control of Open Burning |
| 1.14 | Control of Fugitive Particulate Emissions |
| 1.18 | Rule Effectiveness |
| 1.19 | Administrative Hearings |
| 2.01 | General Application (Permit Requirements) |
| 2.02 | Air Pollution Regulation Requirements and Exemptions |
| 2.03 | Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements |
| 2.04 | Construction or Modification of Major Sources in or Impacting Upon Non-Attainment Areas (Emission Offset Requirements) |
| 2.05 | Prevention of Significant Deterioration |
| 2.06 | Permit Requirements – Other Sources |
| 2.07 | Public Notification for Title V, PSD, and Other Offset Permits; SIP Revisions; and Use of Emission Reduction Credits |
| 2.09 | Causes for Permit Modification, Revocation, or Suspension |
| 2.10 | Stack Height Considerations |
| 2.11 | Air Quality Model Usage |
| 3.01 | Ambient Air Quality Standards |
| 4.01 | General Provisions for Emergency Episodes |
| 4.02 | Episode Criteria |
| 4.03 | General Abatement Requirements |
| 4.04 | Particulate and Sulfur Dioxide Reduction Requirements |
| 4.05 | Hydrocarbon and Nitrogen Oxides Reduction Requirements |
| 4.06 | Carbon Monoxide Reduction Requirements |
| 4.07 | Episode Reporting Requirements |
| 6.01 | General Provisions (Existing Affected Facilities) |
| 6.02 | Emission Monitoring for Existing Sources |
| 7.01 | General Provisions (New Affected Facilities) |

G14. The owner or operator shall comply with all applicable requirements of the following District-only enforceable regulations:

| Regulation | Title |
|---|---|
| 1.12 | Control of Nuisances |
| 1.13 | Control of Objectionable Odors |
| 2.08 | Emission Fee, Permit Fees and Permit Renewal Procedures |
| 2.17 | Federally Enforceable District Origin Operating Permits |
| 5.00 | Definitions |
| 5.01 | General Provisions |
| 5.02 | Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants |
| 5.14 | Hazardous Air Pollutants and Source Categories |
| 5.20 | Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant |
| 5.21 | Environmental Acceptability for Toxic Air Contaminants |
| 5.22 | Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant |
| 5.23 | Categories of Toxic Air Contaminants |
| 7.02 | Adoption and Incorporation by Reference of Federal New Source Performance Standards |

G15. The owner or operator shall submit emission inventory reports, as required by Regulation 1.06, if so notified by the District.

G16. The owner or operator shall submit timely reports of abnormal conditions or operational changes that may cause excess emissions, as required by Regulation 1.07.

G17. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit shall be submitted to:

***Air Pollution Control District***
***701 W. Ormsby Avenue, Suite 303***
***Louisville, Kentucky 40203-3137***

# Plantwide Requirements

## Applicable Regulations

| DISTRICT-ONLY ENFORCEABLE REGULATIONS | | |
|---|---|---|
| **Regulation** | **Title** | **Applicable Sections** |
| 1.13 | Control of Objectionable Odors in the Ambient Air | 1 through 3 |
| 2.17 | Federally Enforceable District Origin Operating Permits | 1 through 9 |
| 5.00 | Definitions | 1, 2 |

## Plantwide Specific Conditions

**S1. Standards**
[Regulation 2.17, section 5.1]

**a. HAP**

i. The owner or operator shall not allow or cause the *plantwide* emissions of total HAPs combined to equal or exceed 12.5 tons during any consecutive 12-month period. [Regulation 2.17, section 5.1]
[Regulation 5.00, section 1.13.5.1][1]

ii. The owner or operator shall not allow or cause the *plantwide* emissions of any individual HAP to equal or exceed 5 tons during any consecutive 12-month period. [Regulation 2.17, section 5.1]
[Regulation 5.00, section 1.13.5.1]

**b. PM/$PM_{10}$**

i. The owner or operator shall not allow the *plantwide* $PM_{10}$ emissions to equal or exceed 25 tons during any consecutive 12-month period. [Regulation 2.17, section 5.1] [Regulation 5.00, section 1.13.5.1][1]

ii. The owner or operator shall not allow the *plantwide* PM emissions to equal or exceed 25 tons during any consecutive 12-month period.
[Regulation 5.00, section 1.13.5.1][2]

**c. Odor**

i. No person shall emit or cause to be emitted into the ambient air any substance that creates an objectionable odor beyond the person's property line. [Regulation 1.13, section 2.1]

**S2. Monitoring and Record Keeping**
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

**a. HAP**

[1] The company accepted limits for Total HAP, Single HAP, PM10 in order to be classified as a FEDOOP source, and to be exempt from the STAR program.
[2] The company accepted limits for PM in order to be exempt from the STAR program.

i. The owner or operator shall maintain records, monthly, of the quantity of each HAP containing material used during each calendar month and the rolling 12-month total quantity of each HAP containing material used.

ii. The owner or operator shall maintain records, monthly, including calculations that show the calendar month and rolling 12-month total plantwide emissions of total HAP emissions.

iii. The owner or operator shall maintain records, monthly, including calculations that show the calendar month and rolling 12-month total plantwide emissions of each individual HAP.

iv. The owner or operator shall maintain a copy of the (M)SDS for each HAP containing material used at the plant.

**b. PM/$PM_{10}$**

i. The owner or operator shall maintain records, monthly, of the type and amount of product transferred.

ii. The owner or operator shall calculate and maintain monthly records that show the plantwide PM/$PM_{10}$ emissions during each calendar month and the rolling 12-month total plantwide $PM_{10}$ emissions.

**S3. Reporting**
[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition G12:

**a. HAP**

i. The total plantwide calendar month emissions and consecutive 12-month emissions of each individual HAP for each month in the reporting period.

ii. The total plantwide calendar month emissions and consecutive 12-month emission of all HAPs combined for each month in the reporting period.

**b. PM/$PM_{10}$**

i. The calendar month and consecutive 12-month plantwide PM/$PM_{10}$ emissions for each month in the reporting period.

## Emission Unit U1: Operation Equipment

### Applicable Regulations

| FEDERALLY ENFORCEABLE REGULATIONS | | |
|---|---|---|
| **Regulation** | **Title** | **Applicable Sections** |
| 7.08 | Standards of Performance for New Process Operations | 1 through 4 |
| 7.12 | Standard of Performance for New Storage Vessels for Volatile Organic Compounds | 1 through 8 |

### Equipment

| Emission Point | Description | Maximum Capacity | Install Date | Applicable Regulations | Control ID | Release ID |
|---|---|---|---|---|---|---|
| E-1 | Troy Tray Dryer/Oven, TD-1 (Natural Gas) | 5,000 lb/load | 10/21/1996 | 7.08 | N/A | S-1 |
| E-2 | Troy Tray Dryer/Oven, TD-2 (Natural Gas) | 5,000 lb/load | 10/21/1996 | 7.08 | N/A | S-2 |
| E-3 | Spray Dryer (SD-1) Bowen Model BB6, with process cyclone (C1) | 300 lb/hr | 10/21/1996 | 7.08 | C2(a), C2(b) | S-3 |
| E-3a | Tank -22 for storage of raw material, pigment slurry | 1,500 gallons | 10/21/1996 | 7.08 | N/A | N/A |
| E-3b | Tank -24 (E3b) for storage of raw material, pigment slurry | 2,000 gallons | 10/21/1996 | 7.08 | N/A | N/A |
| E-4 | Spray Dryer (SD-2) Bowen Model BB6, with process cyclone (C3) | 165 lb/hr | 12/22/1997 | 7.08 | C3,C4 | S-4 |
| E-4a | Tank -26 for storage of raw material, pigment slurry | 1,500 gallons | 12/22/1997 | 7.08 | N/A | N/A |
| E-4b | Tank -27 for storage of raw material, pigment slurry | 1,500 gallons | 12/22/1997 | 7.08 | N/A | N/A |
| E-61 | Tray Dryer/Oven TD-3; Hayes LTO-E (electric) | 48 kw | 2012 | 7.08 | N/A | S-61 |
| E-62 | Tray Dryer/Oven TD-4; Hayes LTO-E (electric) | 48 kw | 2012 | 7.08 | N/A | S-62 |

| Emission Point | Description | Maximum Capacity | Install Date | Applicable Regulations | Control ID | Release ID |
|---|---|---|---|---|---|---|
| E-63 | Tray Dryer/Oven TD-5; Infatrol (natural gas) | 5000# and 1.2 MMBTU/hr | 2017 | 7.08 | N/A | S-63 |
| E-7 | Attritor A-1 (Sigma Blue Mixer) | 200 lb/batch pigment-300 gallon | 2/5/1999 | 7.08[3] | N/A | N/A |
| E-8 | Attritor A-2 (Sigma Blade Mixer) | 200 lb/batch pigment-300 gallon | 2/5/1999 | 7.08[3] | N/A | N/A |
| E-9 | Attritor A-5 (Sigma Blade Mixer) | 75 lb/batch pigment-100 gallon | 2/5/1999 | 7.08[3] | N/A | N/A |
| E-13 | Storage Tank (Tank #31) | 5,500 gallons | 1/11/2006 | 7.12 | C-9 | S-20 |
| E-19 | Reactor (Tank #34) model 316SS | 2,500 gallons | 9/27/2002 | 7.08[3] | NA | S-19 |
| E-20 | Air Products Fiberglass Mix Tank (Tank #7) | 9,300 gallons | 9/27/2002 | 7.08[3] | NA | S-20 |
| E-21 | Air Products Fiberglass Mix Tank (Tank #9) | 7,500 gallons | 9/27/2002 | 7.08[3] | NA | N/A |
| E-22 | Filter Press #7, JWI | 120 $ft^3$ | 9/27/2002 | 7.08[3] | NA | N/A |
| E-23 | Filter Press #8, JWI | 120 $ft^3$ | 9/27/2002 | 7.08[3] | NA | N/A |
| E-24 | Air Products Fiberglass Mix Tank (Tank #10) | 12,689 gallons | 9/27/2002 | 7.08[3] | NA | N/A |
| E-25 | Air Products Fiberglass Mix Tank (Tank #11) | 12,689 gallons | 9/27/2002 | 7.08[3] | NA | N/A |
| E-26 | DeDietrich Reactor Tank (R-32) model G/L SA2000 | 2,000 gallons | 12/19/2001 | 7.08[3] | C-10 | S-26 |
| E-27 | Fiberglass Mix Tank (Tank #4) | 9,300 gallons | 12/19/2001 | 7.08[3] | C-10 | S-26 |
| E-28 | Fiberglass Mix Tank (Tank #8) | 9,300 gallons | 12/19/2001 | 7.08[3] | C-10 | S-26 |
| E-30 | Scott Equipment Ribbon Blender, model GHM4812 | 150 $ft^3$ | 1/20/2005 | 7.08 | C-11 C-12 | S-11 S-12 |

[3] District removed reference to Regulation 7.25 since plantwide potential to emit VOC is less than 5tpy.

| Emission Point | Description | Maximum Capacity | Install Date | Applicable Regulations | Control ID | Release ID |
|---|---|---|---|---|---|---|
| E-31 | Bauermeister IDH Hammermill model UT-22 | 1,000 lb/hr | 1/20/2005 | 7.08 | C-11<br>C-12 | S-11<br>S-12 |
| E-32 | LIBCO Tote Dumper | 20 $ft^3$ | 1/20/2005 | 7.08 | C-11<br>C-12 | S-11<br>S-12 |
| E-33 | Separation Vessel | 20 $ft^3$ | 1/20/2005 | 7.08 | C-11<br>C-12 | S-11<br>S-12 |
| E-34 | JETFLOW Bagging Unit, model 800 Jetflow Impeller Packer | 44 lb/min | 1/20/2005 | 7.08 | C-11<br>C-12 | S-11<br>S-12 |
| E-35 | Baker Perkins Sigma Blade Mixer (Flusher #1) with vacuum pump | 300 gallons | 6/29/2007 | 7.08[3] | NA | S-35 |
| E-36 | Schold Sigma Blade Mixer (Flusher #2) | 300 gallons | 6/29/2007 | 7.08[3] | NA | S-36 |
| E-37 | Schold Mixing System | 500 gallons | 6/29/2007 | 7.08[3] | NA | N/A |
| E-38 | Schold Mixing System | 250 gallons | 6/29/2007 | 7.08[3] | NA | N/A |
| E-39 | Nitzch Milling System, model 25L | 100 lb/hr | 6/29/2007 | 7.08[3] | NA | N/A |
| E-40 | Homrich/Freudenberg double blade Sigma Mixer Salt Attritor | 750 gallons | 5/11/2011 | 7.08[3] | C-13 | N/A |
| E-41 | Tank #6 | 9,000 gallons | 5/11/2011 | 7.08[3] | C-14 | N/A |
| E-29 | Bauermeister Mill | 3000 lb/hr | 2011 | 7.08[3] | C-21 | S-21 |
| E-42 | Pioneer Blender model FM100B | 500 lb/hr | 11/21/2011 | 7.08 | C-15 | N/A |
| E-43 | Aaron Equipment Ribbon Blender | 2,000 lb/hr | 11/21/2011 | 7.08 | C-16 | N/A |
| E-44 | Custom Ribbon Blender with vibratory screen | 1,000 lb/hr | 11/21/2011 | 7.08 | C-15 | N/A |
| E-45 | Abbe Sigma Blade Mixer | 1,000 lb/hr | 11/21/2011 | 7.08 | C-16 | N/A |
| E-46 | Mikropul Hammermill | 800 lb/hr | 11/21/2011 | 7.08 | C-16 | N/A |
| E-48 | Complex Filtration Tank (Tank #12) | 3,000 gallons | 2000 | 7.08[3] | N/A | N/A |
| E-49 | Dye Solution Tank | 3,000 gallons | 2000 | 7.08[3] | N/A | N/A |
| E-50 | Basic Dye Make Tank (Tank #3) | 5,700 gallons | 2000 | 7.08[3] | N/A | N/A |

| Emission Point | Description | Maximum Capacity | Install Date | Applicable Regulations | Control ID | Release ID |
|---|---|---|---|---|---|---|
| E-51 | Dye Filtration Tank with filter press #9 120ft$^3$ | 9,300 gallons | 2000 | 7.08[3] | N/A | N/A |
| E-52 | Reactor Dissolution Vessel (T-33), model 315 SS | 2,000 gallons | 2000 | 7.08[3] | N/A | N/A |
| E-53 | Diazotitation Tank (T-36) FRP | 5,500 gallons | 2000 | 7.08[3] | N/A | N/A |
| E-54 | Strike Tank FRP (T-1, T-2, T-4, T-6, T-7, or T-8) | 9,300 gallons | 2000 | 7.08[3] | N/A | N/A |
| E-55 | Mikro Pulverizer Hammermill/2DH | 1,150 lb/hr | 8/2014 | 7.08 | C-17 | N/A |
| E-55a | Separation vessel Bagging Unit | 1,150 lb/hr | 8/2014 | 7.08 | C-17 | N/A |
| E-56 | Mikro Pulverizer Hammermill/2HD | 1,150 lb/hr | 8/2014 | 7.08 | C-17 | N/A |
| E-56a | Separation vessel Bagging Unit | 1,150 lb/hr | 8/2014 | 7.08 | C-17 | N/A |
| E-57 | Custom Ribbon Blender | 80 ft$^3$ | 8/2014 | 7.08 | C-19 | N/A |
| E-57a | Bagging Unit | 1,150 lb/hr | 8/2005 | 7.08 | C-17 | N/A |
| E-58 | Custom Ribbon Blender | 250 ft$^3$ | 8/2005 | 7.08 | C-17 | N/A |
| E-58a | Bagging Unit | 1,150 lb/hr | 8/2005 | 7.08 | C-17 | N/A |
| E-59 | NIRO Spray Dryer | 40 lb/hr | 2014 | 7.08 | N/A | N/A |
| E-60 | Diethylene Glycol storage tank | 3700 gallons | 1/1/2000 | 7.12 | N/A | N/A |

## Control Devices

| Control ID | Description | Make/Model | Pollutant Controlled | Control Efficiency Option | | |
|---|---|---|---|---|---|---|
| | | | | Option 1 | Option 2 | Option 3 |
| C-1 | Process Cyclon Separator, installed 1996 | | PM, $PM_{10}$ | 90%[4] | N/A | N/A |

[4] The company has chosen the District approved control device efficiency option.

| Control ID | Description | Make/Model | Pollutant Controlled | Control Efficiency Option | | |
|---|---|---|---|---|---|---|
| | | | | Option 1 | Option 2 | Option 3 |
| C-2(a), C-2(b) | Twin Baghouse (DC-18&19) 4000 CFM each, installed After 2016 | Flex Kleen Dust Collection System/100-WAWC 96 III | PM, $PM_{10}$ | N/A | 99.8%[5] | N/A |
| C-3 | Process Multiple Cyclone Separator, installed 1997 | | PM, $PM_{10}$ | N/A | N/A | 97.9%[6] |
| C-4 | SD-2 Wet Scrubber, installed 1997 | Venturi Scrubber | PM, $PM_{10}$ | N/A | N/A | 85.7%[6] |
| C-5 | Process Reflux Condenser with Knockout Pot, installed 2/5/1999 | Custom | PM, $PM_{10}$ | 98% [4] | N/A | N/A |
| C-6 | Process Reflux Condenser with Knockout Pot, installed 2/5/1999 | Custom | PM, $PM_{10}$ | 98%[4] | N/A | N/A |
| C-9 | AP Scrubber 1, Educator Scubber 100-1000 CFM, installed 1/11/2006 | Venturi | VOC | 70%[4] | N/A | N/A |
| C-10 | Packed Bed Wet Scrubber (S-33) 100-1000 CFM, installed 9/7/2002 | Tri-Mer | VOC | 70% [4] | N/A | N/A |
| C-11 | Dust Collector 1200 CFM, installed 2005 | Torit/3DF-6 | PM, $PM_{10}$ | 98% | 99.9%[7] | N/A |
| C-12 | Dust Collector, installed 2005 | MFA-01-132 | PM, $PM_{10}$ | N/A | 95%[7] | N/A |
| C-12a | Dust Collector, installed TBD | Torit & Day/25-PJD-6 | PM, $PM_{10}$ | 98%[4] | N/A | N/A |

[5] The company submitted a signature guarantee from the baghouse manufacturer on 3.2.2016, guaranteeing 99.8%, if the pressure drop is maintained between 2- 8 inches of water column, and chose option 2 for these controls.
[6] The company performed a stack test on 1/04/2013 which demonstrated 97.9% efficiency for the Multiple Cyclone Searator, 85.7% efficiency for the SD-2 Venturi Wet Scrubber, and chose option 3 for these controls.
[7] The company has chosen option 2 for equipment with signature guarantees for control devices submitted on 5/17/2016.

| Control ID | Description | Make/Model | Pollutant Controlled | Control Efficiency Option | | |
|---|---|---|---|---|---|---|
| | | | | Option 1 | Option 2 | Option 3 |
| C-13 | Packed-bed Wet Scrubber 100 CFM, installed 2011 | Ceilcote | VOC | 70%[4] | N/A | N/A |
| C-14 | Activated Carbon Adsorber 100 CFM, installed 2011 | TIGG/N150 | VOC | 75%[4] | N/A | N/A |
| C-15 | Dust Collector 1000 CFM, installed 2011 | Donaldson Torit/3DF6 | PM, $PM_{10}$ | 98% | 99.97%[7] | N/A |
| C-16 | Dust Collector 1000 CFM, installed 2011 | RL Flowers/8-1810 | PM, $PM_{10}$ | 98% | 99.99%[7] | N/A |
| C-17 | Dust Collector 3000 CFM | Donaldson Torit/3DF24 | PM, $PM_{10}$ | 98% | 99.97%[7] | N/A |
| C-20 | Dust Collector | Dust Hog/FJL-4 | PM, $PM_{10}$ | 98% | 99.9%[7] | N/A |
| C-21 | Dust Collector 1500 CFM | Torit/3DF12 | PM, $PM_{10}$ | 98% | 99.7%[7] | N/A |
| C-22 | Dust Collector 2000 CFM | Torit/3DF6 | PM, $PM_{10}$ | 98%[4] | N/A | N/A |

Note:

1. Options for control efficiency determination:
   Option 1: Use District pre-approved control efficiency
   Option 2: Submit a signature guarantee from the control device manufacturer stating the control device efficiency
   Option 3: Performed a stack test. See Testing Specific Conditions S4.a in Emission Unit 1 for general testing requirements.
2. Until the District receives a signature guarantee from the control device manufacturer stating the control device efficiency is higher (Option 2), or an approved stack test (Option 3), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.

## Equipment Not Regulated

| Emission Point | Description | Maximum Capacity | Install Date |
|---|---|---|---|
| E-14[8] | Storage Tote | 500 gallons | 1/11/2006 |
| E-15[8] | Stoarage Tank (Tank #39) | 3,500 gallons | 1/11/2006 |

[8] The District has determined that although there are VOC emissions from this equipment Regulation 7.25 does not apply unless plantwide potential is at least 5 tpy.

| Emission Point | Description | Maximum Capacity | Install Date |
|---|---|---|---|
| E-16[8] | Finished product Storage Tank (Tank #36) | 5,500 gallons | 1/11/2006 |
| E-17[8] | Stainless Steel Reactor (R-30) with a process reflux condenser (C-5), vacuum pump and knock out pot | 2,000 gallons | 2/5/1999 |
| E-18[8] | Monel Reactor (R-33) with a process reflux condenser | 1,500 gallons | 2/5/1999 |
| E-40a[8] | Stainless Steel holding tank | 2500 gallons | 2011 |
| E-64 | Sodium hydroxide storage tank | 9300 gallons | 1/1/2000 |

## U1 Specific Conditions

### S1. Standards

[Regulation 2.17, section 5.1]

**a. NOx**

i. For each dryer (Tray dryers (E1, E2, and E63), the owner or operator shall not allow NOx emissions to exceed 300 ppm by volume expressed as $NO_2$. [Regulation 7.08, section 4.1][9]

**b. Opacity**

i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. [Regulation 7.08, section 3.1.1]

**c. PM/$PM_{10}$**

i. The owner or operator shall not allow PM emissions to exceed 3.00 lb/hr for spray dryer SD-1 (E3, which includes process cyclone C-1), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2][10]

ii. For the control device (C2(a) and C2(b)) at all times an associated emission point (E3) is in operation, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. [Regulation 1.05, section 5]

iii. The owner or operator shall maintain a differential pressure drop across the filters (C2(a) and C2(b)) between 2 – 8" W.C. while in operation. [Regulation 2.03, section 6.1][Construction Permit C-1231-1001-16-F]

iv. The owner or operator shall maintain a differential pressure drop across the filter C-11 between 4 – 5" W.C. while in operation. [Regulation 2.17, section 5.1]

v. The owner or operator shall maintain a differential pressure drop across the filter C-12, C-15, C-16, C-17, C-20, and C21 between 3 – 7" W.C. while in operation. [Regulation 2.17, section 5.1]

[9] A one-time compliance demonstration has been performed for this equipment for NOx, and the standard cannot be exceeded uncontrolled.

[10] A one-time PM compliance demonstration has been performed for this equipment and the lb/hr standard can be exceeded uncontrolled. To meet the permitted standard the equipment must be controlled at all times during operation. The total capacity of the dryer is 1500 lb/hr.

vi. The owner or operator shall not allow PM emissions to exceed 3.00 lb/hr for spray dryer SD-2 (E4), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2][11]

vii. The owner or operator shall not allow PM emissions to exceed 3.59 lb/hr for the Aaron Equipment Ribbon Blender (E43), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2] [12]

viii. The owner or operator shall not allow PM emissions to exceed 2.55 lb/hr for each of the following pieces of equipment in the Grinding and Blending Operation, based on actual operating hours in a calendar day:
[Regulation 7.08, section 3.1.2][12]

(1) Mikro Pulverizer hammermills (E55 and E56);

(2) Hammermill bagging units (E55a and E56a);

(3) Ribbon blenders (E57 and E58); and

(4) Ribbon blender bagging units (E57a and E58a)

ix. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr or 5 tons/year for each of the following pieces of equipment in the Pigment Manufacturing Operation, based on actual operating hours in a calendar day: [Construction Permit 85-05-C][Regulation 7.08, section 3.1.2][13]

(1) Scott Equipment ribbon blender (E30);

(2) LIBCO tote dumper (E32);

(3) Separation vessel (E33); and

(4) JETFLOW bagging unit (E34)

x. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for each Sigma blade mixer (Flusher) (E35 and E36), based on actual operating hours in a calendar day.
[Construction Permit 312-07-C][Regulation 7.08, section 3.1.2][12]

xi. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for the Homrich/Freudenberg attritor (E40) or Tank #6 (E41), based on actual operating hours in a calendar day.
[Construction Permit 32949-11-C][Regulation 7.08, section 3.1.2][12]

[11] A one-time compliance demonstration has been performed for each one of these pieces of equipment for PM, and the lb/hr standards cannot be exceeded uncontrolled.

[12] A one-time compliance demonstration has been performed for each one of these pieces of equipment for PM, and the lb/hr standards cannot be exceeded uncontrolled.

[13] A one-time compliance demonstration has been performed for each one of these pieces of equipment for PM, and both the lb/hr and 5 tpy standards cannot be exceeded uncontrolled.

xii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for each of the following pieces of equipment, based on actual operating hours in a calendar day: [Regulation 7.08, section 3.1.2][12]

(1) Tray dryers (E1, E2, E61, E62, and E63);

(2) Tanks #22 (E3a) and #24 (E3b);

(3) Tanks #26 (E4a) and #27 (E4b);

(4) Attritors (E7 – E9);

(5) PM1/PM2 Process equipment (E19 – E25);

(6) Tanks (E26 - E28);

(7) IDH hammermill (E31);

(8) Schold mixing systems (E37 – E39);

(9) Pioneer blender (E42);

(10) Custom ribbon blender (E44);

(11) U13 equipment (E45 and E46);

(12) Basic Dye Pigment Production equipment (E48 – E51);

(13) Diazo Dye Pigment Production equipment (E52 – E54); and

(14) NIRO spray dryer (E59)

xiii. The owner or operator shall not allow PM emissions to exceed 4.62 lb/hr for the Bauermeister Mill (E29), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2] [14]

xiv. See Plantwide for $PM_{10}$.

**d. VOC**

i. For E-60 the owner or operator shall not store materials with an as stored vapor pressure of greater than or equal to 1.5 psia in the storage vessel(s), unless the storage tank is equipped with a permanent submerged fill pipe. [Regulation 7.12, section 3.3]

ii. For Storage Tank #31 (E-13), the owner or operator shall not store materials with an as stored vapor pressure of greater than or equal to 1.5 psia. [Construction Permit 165-06-C, Effective Date 6/21/2006] [Regulation 7.12, section 3]

[14] A one-time compliance demonstration has been performed for each one of these pieces of equipment for PM, and the lb/hr standards cannot be exceeded uncontrolled.

## S2. Monitoring and Record Keeping

[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

**a. $NO_x$**

i. There are no compliance monitoring or record keeping requirements for this pollutant.

**b. Opacity**

i. For all pieces of equipment in this emission unit subject to Regulation 7.08, the owner or operator shall, monthly, conduct a one-minute visible emissions survey, during normal operation, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.

iii. The owner or operator shall, monthly, maintain records of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

**c. $PM/PM_{10}$**

i. The owner or operator shall, daily, monitor and record the pressure drop across the filters (C2(a) and C2(b)) and note if the differential pressure is out of the range 2 – 8" W.C.

ii. The owner or operator shall, daily, maintain records of the hours of operation of the equipment (E2).

iii. The owner or operator shall, daily, maintain records of any periods of time where the spray dryer SD-1 (E2) was operating and the control device (C2(a) or C2(b)) was not operating or a declaration that the control device operated at all times that day when the process was operating.

iv. If there is any time that the control devices (C2(a) or C2(b)) are bypassed or not in operation when the spray dryer SD-1 is operating, or the pressure drop is out of range when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:

(1) Date;

(2) Start time and stop time;

(3) Identification of the control device and process equipment;

(4) PM emissions during the bypass, in lb/hr;

(5) Summary of the cause or reason for each bypass event;

(6) Corrective action taken to minimize the extent or duration of the bypass event; and

(7) Measures implemented to prevent recurrence of the situation that resulted in the bypass event.

(8) If this event is due to an upset condition, you must report as specified in District regulation 1.07, section 4.

v. The owner or operator shall, daily, monitor and record the pressure drop across the filter C-11 while in use and note if the differential pressure is out of the range 4 – 5" W.C.

vi. The owner or operator shall, daily, monitor and record the pressure drop across the filters C-12, C-15, C-16, C-17, C-20, and C21 while in use and note if the differential pressure is out of the range 3 – 7" W.C.

vii. The owner or operator shall, daily, maintain records of the hours of operation of the equipment controlled by C-11, C-12, C-15, C-16, C-17, C-20, and C-21.

viii. The owner or operator shall, daily, maintain records of any periods of time where the equipment E-29, E-30, E-31, E-32, E-33, E-34, E-42, E-43, E-44, E-45, E-46, E-55, E-55a, E-56, E-56a, E-57a, E-58, or E-58a was operating and the control device was not operating or a declaration that the control device operated at all times that day when the process was operating.

ix. If there is any time that the control devices C-11, C-12, C-15, C-16, C-17, C-20, and C-21 are bypassed or not in operation when the equipment is operating, or the pressure drop is out of range when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:

(1) Date;

(2) Start time and stop time;

(3) Identification of the control device and process equipment;

(4) PM emissions during the bypass, in lb/bypass;

(5) Summary of the cause or reason for each bypass event;

(6) Corrective action taken to minimize the extent or duration of the bypass event; and

(7) Measures implemented to prevent recurrence of the situation that resulted in the bypass event.

(8) If this event is due to an upset condition, you must report as specified in District regulation 1.07, section 4.

x. The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of all control devices for signs of damage, leakage, corrosion, etc. and repair as needed. The owner or operator shall maintain monthly records of the results.

xi. See Plantwide for $PM_{10}$.

**d. VOC**

i. The owner or operator of the storage vessel(s) shall maintain records of the material stored (a description of all the possible VOC constituents which may be stored in each tank) and the vapor pressure in each storage vessel (the vapor pressure of all the applicable VOC materials at the range of temperatures achieved during storage) and if the contents of the storage vessel(s) are changed a record shall be made of the new contents, the new vapor pressure, and the date of the change in order to demonstrate compliance.

ii. The owner or operator shall keep a record that shows if the storage vessel is equipped with a submerged fill pipe. Submerged fill pipe means any fill pipe the discharge of which is entirely submerged when the liquid level is 6 inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean every fill pipe the discharge opening of which is entirely submerged when the liquid level is 2 times the fill pipe diameter above the bottom of the tank.

iii. For Tank #31, the owner or operator shall maintain records, monthly, of the material stored. If the contents of the storage vessel are changed, a record shall be made of the new contents, the new vapor pressure, and the date of the change in order to demonstrate compliance.

**S3. Reporting**
[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition G12:

**a. $NO_x$**

i. There are no routine compliance reporting requirements for this pollutant.

**b. Opacity**

i. The following information shall be included in the semi-annual reports:

(1) Emission Unit number and Emission Point number for each exceedance,

(2) The beginning and ending date of the reporting period,

(3) The number of surveys where visible emissions were observed,

(4) The date, time and results of each Method 9 that exceeded the opacity standard, and

(5) A description of any corrective action taken for each exceedance, or

(6) A negative declaration if no visible emissions were observed.

**c. $PM/PM_{10}$**

i. For spray dryer SD-1(E3) controlled by either C2(a) or C2(b): The owner or operator shall clearly identify all deviations from permit requirements in the semi-annual report and include the following information:

(1) Emission Unit ID number and emission point ID number,

(2) Identification of all times the control devices are not in operation and the emissions exceed the lb/hr PM limit,

(3) Calculated lb/hr PM emissions during the event,

(4) Reason for excess emissions,

(5) Description of corrective action taken to prevent future exceedances,

(6) A negative declaration if no deviations occur during the reporting period,

(7) Identification of all times the monthly control device inspections are missed, and

(8) A negative declaration if all the control device inspections are completed.

(9) Number of times the pressure drop across the filter fell out of acceptable range,

(10) Duration of each pressure drop excursion, or

(11) A negative declaration if no pressure drop excursions occurred.

ii. For equipment controlled by C-11, C-12, C-15, C-16, C-17, C-20, and C-21: The owner or operator shall clearly identify all deviations from permit requirements in the semi-annual report and include the following information:

(1) Emission Unit ID number and emission point ID number,

(2) Identification of all times the control devices are not in operation,

(3) Calculated lb/bypass PM emissions during the event,

(4) Reason for excess emissions,

(5) Description of corrective action taken to prevent future exceedances,

(6) A negative declaration if no deviations occur during the reporting period,

(7) Identification of all times the monthly control device inspections are missed, and

(8) A negative declaration if all the control device inspections are completed.

(9) Number of times the pressure drop across the filter fell out of acceptable range,

(10) Duration of each pressure drop excursion, or

(11) A negative declaration if no pressure drop excursions occurred.

iii. See Plantwide for $PM_{10}$.

**d. VOC**

i. For Storage Tank #31, the following shall be included in the semi-annual report:

(1) Identification of the operating parameters being monitored.

(2) Identification of all periods of exceedance of the VOC standard and the operating parameters. If no exceedances occur during the reporting period, the owner or operator shall submit a negative declaration.

(3) Description of any corrective action taken for each exceedance. If no corrective action was taken during the reporting period, the owner or operator shall submit a negative declaration.

**S4. Testing**
[Regulation 2.17, section 5.2]

**a. General Requirements**

These conditions apply for all testing unless superseded by requirements listed in the individual emission units.

i. Devices of similar design may be represented by a common performance test contingent upon review and approval of the testing protocol by the District.

ii. Before conducting a performance test, the owner or operator shall submit a written performance test plan (stack test protocol). The plan shall include the EPA test methods that will be used for testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators that will be monitored during the performance test. The test plans shall be furnished to the District at least 30 calendar days prior to the actual date of the performance test. The Protocol Checklist for a Performance Test is attached to this permit. This checklist provides information that must be provided in the protocol.

iii. The owner or operator shall provide the District at least 10 working days prior notice of any performance test to afford the District the opportunity to have an observer present.

iv. The owner or operator shall furnish the District with a written report of the results of the performance test within 60 calendar days following the actual date of completion of the performance test.

**b. PM/$PM_{10}$**

i. For the Multiple Cyclone Separator (C-3) and Venturi Wet Scrubber (C-4) by no later than 1/04/2023, the owner or operator shall perform an EPA Reference Method 5 performance test for PM on the inlet and outlet of each control device or emission point to determine the emission rate and control efficiency. The requirement that the test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations shall be addressed in the stack test protocol. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which results in the greatest emissions may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

## Insignificant Activities

| Equipment | Quantity | PTE (tpy) | Regulation Basis |
|---|---|---|---|
| Natural Gas Boiler | 1 | 3.59 ($NO_x$) | Regulation 1.02, Appendix A |
| Indirect Heat Exchanger[15] | 1 | 0.12 ($NO_x$) | Regulation 1.02, Appendix A |
| Propane Internal Combustion Engines (Industrial Trucks) | 8 | 0.8 ($NO_x$) | Regulation 1.02, Appendix A |
| Emergency Relief Vents | 5 | 0.0 | Regulation 1.02, Appendix A |
| Laboratory Hoods | 3 | 0.279 (VOC) | Regulation 1.02, Appendix A |
| Parts Washer equipped with secondary reservoirs[16] | 1 | 0.762 (VOC) | Regulation 1.02, Appendix A |
| Baker/Perkins Flusher | 1 | 0.039 (VOC) | Regulation 1.02, Section 1.38 |
| Custom Flusher (5 gal) | 1 | $1.95 \times 10^{-3}$ (VOC) | Regulation 1.02, Section 1.38 |
| Custom Flusher (2 gal) | 1 | $7.81 \times 10^{-4}$ (VOC) | Regulation 1.02, Section 1.38 |
| DH Hammermill | 1 | 0.377 ($PM_{10}$) | Regulation 1.02, Section 1.38 |
| 30” SWECO Screener | 1 | 0.292 ($PM_{10}$) | Regulation 1.02, Section 1.38 |
| Roll Mills | 3 | 0.0 | Regulation 1.02, Section 1.38 |
| Post Mixer | 1 | 0.0 | Regulation 1.02, Section 1.38 |
| Stainless Steel Reactor | 1 | 0.051 (VOC) | Regulation 1.02, Section 1.38 |
| Glass Lined Reactor | 1 | 0.051 (VOC) | Regulation 1.02, Section 1.38 |
| Rotary Dryer with Condenser | 1 | 0.788 ($PM_{10}$) | Regulation 1.02, Section 1.38 |
| Oil Warmer | 1 | 0.0 | Regulation 1.02, Section 1.38 |
| Dyno Horizontal Media Mill | 2 | 0.377 ($PM_{10}$) | Regulation 1.02, Section 1.38 |
| Neutralization Tanks | 2 | $1.88 \times 10^{-5}$ (VOC) | Regulation 1.02, Section 1.38 |
| Wastewater Clarifiers | 2 | 0.106 (VOC) | Regulation 1.02, Section 1.38 |
| Sludge Tank | 1 | $6.37 \times 10^{-5}$ (VOC) | Regulation 1.02, Section 1.38 |
| Filter Press #12 | 1 | 0.056 (VOC) | Regulation 1.02, Section 1.38 |

[15] The capacity of the indirect heat exchanger is 0.27 MMBTU/hr. Therefore, it is not subject to Regulation 7.06 because it is less than 1 MMBTU/hr.

[16] The parts washer in this emission unit is subject to Regulation 6.18. The owner or operator is required to operate and maintain the parts washer according to the requirements of this regulation.

| Equipment | Quantity | PTE (tpy) | Regulation Basis |
|---|---|---|---|
| Various Filter Presses | 9 | 0.056 (VOC) | Regulation 1.02, Section 1.38 |
| Torit Model 84 | 2 | < 1 tpy each | Regulation 1.02, Appendix A |
| Torit Model VS550 | 3 | < 1 tpy each | Regulation 1.02, Appendix A |
| Torit Model V1550 | 1 | < 1 tpy | Regulation 1.02, Appendix A |
| Torit Model 75/80 | 1 | < 1 tpy | Regulation 1.02, Appendix A |
| Torit Model 80CAB | 1 | < 1 tpy | Regulation 1.02, Appendix A |

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.

2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.

3. The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.

4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.

5. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.

6. The District has determined that no monitoring, recordkeeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

## Emission Unit UIA1: Natural Gas Boiler

### Applicable Regulations

| FEDERALLY ENFORCEABLE REGULATIONS | | |
|---|---|---|
| **Regulation** | **Title** | **Applicable Sections** |
| 7.06 | Standards of Performance for New Indirect Heat Exchangers | 1 through 5 |

### Equipment

| Emission Point | Description | Maximum Capacity | Install Date | Applicable Regulations | Control ID | Release ID |
|---|---|---|---|---|---|---|
| IA1 | Natural Gas Boiler | 8.369 MMBTU/hr | 4/01/2014[17] | 7.06 | N/A | N/A |

[17] Dates given are the date of application after installation; therefore, the actual dates of installation are prior to the date given.

## UIA1 Specific Conditions

**S1. Standards**
[Regulation 2.17, section 5.1]

**a. Opacity**

i. The owner or operator shall not cause to be discharged into the atmosphere from any affected facility particulate matter emissions which exhibit greater than 20% opacity. [Regulation 7.06, section 4.2][18]

**b. $PM/PM_{10}$**

i. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility particulate matter in excess of 0.56 pounds per million BTU actual total heat input. [Regulation 7.06, section 4.1.2][19]

ii. See Plantwide for $PM_{10}$.

**c. $SO_2$**

i. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility any gases which contain sulfur dioxide in excess of 1.0 pounds per million BTU actual total heat input for combustion of gaseous fuels. [Regulation 7.06, section 5.1.1][19]

**S2. Monitoring and Record Keeping**
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

**a. Opacity**

i. There are no compliance monitoring or record keeping requirements for this pollutant.

**b. $PM/PM_{10}$**

i. There are no compliance monitoring or record keeping requirements for PM.

ii. See Plantwide for $PM_{10}$.

[18] The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard.
[19] A one-time compliance demonstration has been performed for PM and SO2 for the boiler using AP-42 emission factors and combusting natural gas, and the pound per million BTU emission standards cannot be exceeded.

**c. $SO_2$**

i. There are no compliance monitoring or record keeping requirements for this pollutant.

## S3. Reporting

[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition G12:

**a. Opacity**

i. There are no specific reporting requirements for this pollutant.

**b. PM/$PM_{10}$**

i. There are no specific reporting requirements for PM.

ii. See Plantwide for $PM_{10}$.

**c. $SO_2$**

i. There are no specific reporting requirements for this pollutant.

## Emission Unit UIA2: Small Batch Operation

### Applicable Regulations

| FEDERALLY ENFORCEABLE REGULATIONS | | |
|---|---|---|
| **Regulation** | **Title** | **Applicable Sections** |
| 7.08 | Standards of Performance for New Process Operations | 1 through 4 |

### Equipment

| Emission Point | Description | Maximum Capacity | Install Date[20] | Applicable Regulations | Control ID | Release ID |
|---|---|---|---|---|---|---|
| IA5 | Baker/Perkins Flusher | 100 gal. | 4/1/2014 | 7.08[21] | N/A | N/A |
| IA6 | Custom Flusher | 5 gal. | 4/1/2014 | 7.08[21] | N/A | N/A |
| IA7 | Custom Flusher | 2 gal. | 4/1/2014 | 7.08[21] | N/A | N/A |
| IA8 | DH Hammermill | 287 lb/hr | 4/1/2014 | 7.08 | N/A | N/A |
| IA9 | 30” SWECO Screener | 65 lb/hr | 4/1/2014 | 7.08 | N/A | N/A |
| IA12 | Rotary Dryer | 10 gal. | 4/1/2014 | 7.08 | N/A | N/A |
| IA13 | Dyno Horizontal Media Mill 1 | 287 lb/hr | 4/1/2014 | 7.08 | N/A | N/A |
| IA14 | Dyno Horizontal Media Mill 2 | 287 lb/hr | 4/1/2014 | 7.08 | N/A | N/A |

### Equipment Not Regulated

| Emission Point | Description | Maximum Capacity | Install Date |
|---|---|---|---|
| IA2[22] | Laboratory Hood 1 | N/A | 4/1/2014 |
| IA3[22] | Laboratory Hood 2 | N/A | 4/1/2014 |
| IA4[22] | Laboratory Hood 3 | N/A | 4/1/2014 |
| IA10[22] | Stainless Steel Reactor | 100 gal. | 4/1/2014 |
| IA11[22] | Glass Lined Reactor | 100 gal. | 4/1/2014 |
| IA15[22] | Neutralization Tank 1 | 1,000 gal. | 4/1/2014 |

[20] Dates given are the date of application after installation; therefore, the actual dates of installation are prior to the date given.
[21] District removed reference to Regulation 7.25 since plantwide potential to emit VOC is less than 5tpy.
[22] The District has determined that although there are VOC emissions from this equipment Regulation 7.25 does not apply unless plantwide potential is at least 5 tpy.

| Emission Point | Description | Maximum Capacity | Install Date |
|---|---|---|---|
| IA16[22] | Neutralization Tank 2 | 1,000 gal. | 4/1/2014 |
| IA17[22] | Clarifier 1 | 60 $ft^2$ | 4/1/2014 |
| IA18[22] | Clarifier 2 | 36 $ft^2$ | 4/1/2014 |
| IA19[22] | Sludge Tank | 1,000 gal. | 4/1/2014 |
| IA20[22] | Filter Press #12 | 10 $ft^2$ | 4/1/2014 |
| IA21[22] | Various Filter Presses | 10 $ft^2$ | 4/1/2014 |

## UIA2 Specific Conditions

**S1. Standards**
[Regulation 2.17, section 5.1]

**a. Opacity**

i. The owner or operator shall not cause to be discharged into the atmosphere from any affected facility particulate matter emissions which exhibit greater than 20% opacity. [Regulation 7.08, section 3.1.1]

**b. $PM/PM_{10}$**

i. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr, based on actual operating hours in a calendar day, for each piece of equipment in this IA emission unit subject to Regulation 7.08.
[Regulation 7.08, section 3.1.2][23]

ii. See Plantwide for $PM_{10}$.

**S2. Monitoring and Record Keeping**
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

**a. Opacity**

i. There are no compliance monitoring or record keeping requirements for this pollutant.

**b. $PM/PM_{10}$**

i. There are no compliance monitoring or record keeping requirements for PM.

ii. See Plantwide for $PM_{10}$.

**S3. Reporting**
[Regulation 2.17, section 5.2]

[23] A one-time compliance demonstration has been performed for each piece of equipment for PM, and the lb/hr standards cannot be exceeded uncontrolled.

The owner or operator shall report the following information, as required by General Condition G12:

**a. Opacity**

i. There are no specific reporting requirements for this pollutant.

**b. $PM/PM_{10}$**

i. There are no specific reporting requirements for PM.

ii. See Plantwide for $PM_{10}$.

## Fee Comment

The company is required to pay annual fees.

## Attachment A: Calculation Methodologies

The following equations shall be used to determine emissions unless other methods are approved by the District. District approved control device efficiencies listed in the permit may be used for emissions captured by the control device from equipment during periods of operation when the controls are in use.

Liquid Materials/Products Loading/Unloading: The following equation shall be used to determine the VOC emissions from the loading and unloading of liquid VOC containing material:

$$E_{VOC} = 12.46 * \frac{S*P*M*Q}{T}$$

Where,

$E_{voc}$ = VOC Emissions (lb/yr)
S = Saturation Point
P = Vapor Pressure (psia)
M = Vapor Molecular Weight (lb/lb-mole)
Q = Volume (1,000 gal/yr)
T = Temperature ($^oR$)

Liquid Materials/Products Mixing/Reaction: The following equation shall be used to determine the VOC emissions from the mixing and reaction processes involving VOC containing material:

$$E_{VOC} = \left[\left(\frac{\sum(P_x)_{T1}}{14.7-\sum(P_x)_{T1}}\right) + \left(\frac{\sum(P_x)_{T2}}{14.7-\sum(P_x)_{T2}}\right)\right]\Big/_2 * \Delta n * M_a * CYC$$

Where,

$E_{voc}$ = VOC Emissions (lb/yr)
$\Sigma(P_x)_{T1}$ = initial partial pressure of each VOC species (x) in the vessel headspace at the initial temperature (T1) (psia)
$\Sigma(P_x)_{T2}$ = final partial pressure of each VOC species (x) in the vessel headspace at the final temperature (T2) (psia)
$\Delta n$ = number of lb-moles of gas displaced (lb-mole/batch)
$M_a$ = average vapor molecular weight (lb/lb-mole)
CYC = number of cycles per year (batches/yr)

VOC emissions include all VOC emitting devices including the following:
E-7, E-8, E-9, E-13, E-14, E-15, E-16, E-17, E-18, E-19, E-20, E-21, E-22, E-23, E-24, E-25, E-26, E-27, E-28, E-35, E-36, E-37, E-38, E-39, E-40, E-40a, E-41, E-29, E-48, E-49, E-50, E-51, E-52, E-53, E-54, E-60, IA1, IA2, IA3, IA4, IA5, IA6, IA7, IA15, IA16, IA17, IA18, IA19, IA20, and IA21.

Dry Materials/Products Loading/Unloading:

Pigment
*EF = 2 lb PM/ton of pigment processed* (AP-42, Table 6.7.1)

Salt
*EF = 0.13 lb PM/ton of salt*

(Derived from AP-42, Table 11.19.1-1 using a controlled emission factor of 0.0013 lb/ton and a control efficiency of 99%)

All processes at the facility that emit PM within the building will have an Enclosure Control Factor of 70%.

Combustion emission factors:

Natural Gas Combustion AP-42, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4

Working and Breathing Losses from Storage Tanks:

Liquid Storage Tanks AP-42, Chapter 7 (Tanks 4.0d)

## Attachment B - Protocol Checklist for a Performance Test

A completed protocol should include the following information:

1. Facility name, location, and ID #;
2. Responsible Official and environmental contact names;
3. Permit numbers that are requiring the test to be conducted;
4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
5. Alternative test methods or description of modifications to the test methods to be used;
6. Purpose of the test including equipment and pollutant to be tested; the purpose may be described in the permit that requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
7. Tentative test dates (These may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation.);
8. Maximum rated production capacity of the system;
9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate, based on limits);
10. Method to be used for determining rate of production during the performance test;
11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
12. Description of normal operation cycles;
13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
14. Process flow diagram;
15. The type and manufacturer of the control equipment, if any;
16. The control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test. Note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
17. How quality assurance and accuracy of the data will be maintained, including;
    - Sample identification and chain-of-custody procedures
    - Audit sample provider and number of audit samples to be used, if applicable
18. Pipe, duct, stack, or flue diameter to be tested;
19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60:
    - Method 1 if stack diameter is >12"
    - Method 1a if stack diameter is greater than or equal to 4" and less than 12"
    - Alternate method of determination for <4"
    - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Method 1, Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.
21. The Stack Test Review fee shall be submitted with each stack test protocol.